IN THE FEDERAL COURT OF AUSTRALIA
NEW SOUTH WALES DISTRICT REGISTRY

No N378 of 2006

BETWEEN:

DELNORTH PTY LTD
ACN 051 954 977

Applicant

DURA-POST (AUST) PTY LTD
ACN 101 287 512

Respondent

DURA-POST (AUST) PTY LTD
ACN 101 287 512

Cross-Claimant

DELNORTH PTY LTD
ACN 051 954 977

Cross-Respondent

AFFIDAVIT

On 23 June 2008, I **LAURENCE BEDE DOWLING** of 28 Wrightson Avenue, Newcastle in the State of New South Wales, 2300, Civil Engineer, SAY ON OATH:

A. MY INSTRUCTIONS

1. I refer to my five earlier affidavits dated 15 March 2007 ("my First Affidavit"), 21 May 2007 ("my Second Affidavit"), 4 June 2007, 22 October 2007 and 28 February 2008.

2. As with my previous affidavits, I make this affidavit based on my own knowledge unless expressly indicated otherwise.

3. Spruson & Ferguson Lawyers has provided me with a copy of the Guideline for Expert Witnesses in Proceedings in the Federal Court of Australia ("the Guidelines") issued on 5

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May 2008. A copy of these Guidelines are annexed and marked "A". I have read and understand these Guidelines and make this affidavit in accordance with them.

4. Spruson & Ferguson Lawyers have provided me with a copy of United States Patent No. 3,312,156 dated April 4, 1967 entitled "Highway Marking Device" ("the Pellowski Patent"), a copy of which is annexed and marked "B". I have read the Pellowski Patent.

5. For the purposes of this affidavit, I have been asked by Spruson & Ferguson Lawyers to:

   (a) comment generally on the highway marking device described in the Pellowski Patent.

   (b) compare the various claims of the First Patent, the Second Patent and the Third Patent (as defined in my First Affidavit) defining a roadside post with the highway marking device disclosed in the Pellowski Patent;

   (c) to identify whether or not, and if so how, the roadside posts the subject of the claims of the First Patent, the Second Patent and the Third Patent vary from the highway marking device disclosed in the Pellowski Patent in ways that make a substantial contribution to the working of the roadside posts;

6. I have been asked to address these matters in light of the knowledge and experience I had prior to 23 June 2003 and I have endeavoured to do so. The opinions and views I express in this affidavit are expressed in the light of the knowledge and experience I had prior to that date in relation to roadside posts and deal with the position as it stood prior to that date.

7. On the basis of my experience as set out in my curriculum vitae and as outlined in my First Affidavit, I consider that the matters I deal with in this affidavit are within my area of expertise.

B. GENERAL COMMENTS ON THE PELLOWSKI PATENT

8. The Pellowski Patent describes a highway marking device, in the nature of a lane marker in the form of a steel strip which visibly and audibly signals the location of traffic lanes and highway centre lines. The lane marker is visible and engages with the under side of a motor vehicle to provide an audible signal when a vehicle inadvertently or otherwise changes lanes along a roadway. It is apparent to me from reading the Pellowski Patent that the lane marker is designed to be impacted regularly and warn drivers when they are moving or have moved traffic lanes.

9. Whilst to the best of my recollection I am not aware of a highway marking device as described in the Pellowski Patent having been used in Australia, I am aware of other forms of lane markers which are designed to achieve the same results, being to delineate traffic lanes and provide drivers with an audible signal when changing lanes. A common form of such lane markers used in Australia is a raised pavement marker which consists of a raised plastic or ceramic body that is bonded to the road surface and which may or may not have retro-reflective devices embedded within the body to reflect the headlights of oncoming cars. These are sometimes called "cat's eyes" when they include retroreflective material. The raised profile of the raised pavement marker also provides an audible signal when a motor vehicle's tyres drive over it when changing lanes. Other known forms of lane markers include short flexible rubber flaps that are mounted in rigid bases affixed to the road surface between lanes. Typically, these rubber flaps are in the order of 20

centimetres in height and, as such, engage the underside of most motor cars. A further example of a lane delineating or marker device is the use of corrugated parts of the road surface at the sides of some freeways, sometimes painted white, which make a noise when the vehicle moves across the line. These are sometimes called "rumble strips". Again, all of these lane markers provide both visible and audible guidance. Additionally, each of the above devices assists with road safety, by alerting drivers who, whilst experiencing driver fatigue, may drift out of their lane triggering the audible signals provided by the lane marking devices.

C. COMPARISON OF CLAIMS

10. I have compared the claims of the First, Second and Third Patents with the highway marking device disclosed in the Pellowski Patent. In my opinion, for the reasons outlined below, the roadside posts the subject of the claims of the First, Second and Third Patents vary from the highway marking device disclosed in the Pellowski Patent in several ways, each of which makes a substantial contribution to the working of the roadside posts.

D. ROADSIDE POST

11. In my opinion, the roadside posts defined in the claims of each of the First, Second and Third Patents vary from the highway marking device described in the Pellowski Patent in that the highway marking device is not a "roadside post". A roadside post, such as a sign post or a guide post, is located at the side of the road and acts as a support for a functional roadside component such as a sign or delineator (reflector). Also, typically, such posts when in the form of a guide post have a height of about one metre above the surface when installed. This is required by the Australian state specifications described in

my earlier affidavits and provides for the location of a delineator at an appropriate height so that it is readily visible from vehicles. Sign posts are, generally speaking, higher than (or at least as high as) guide posts. Roadside posts of these kinds are not designed to be impacted repeatedly by vehicles as part of their function.

12. In my opinion, the highway marking device described in the Pellowski Patent does not meet the above description. As to this, I note the following aspects of the Pellowski Patent:

    (a) the Pellowski Patent does not describe the highway marking device as a "roadside post". To my mind, the use of the terms "highway marking device" and "lane marker" in the Pellowski Patent suggest a purpose associated with marking out lanes on a highway or roadway, which is different to the purpose described above for a roadside post;

    (b) the Pellowski Patent depicts the highway marking device as being located <u>on</u> the roadway, and embedded in its surface, rather than at the side of the road. Specifically, Figures 1 and 4 show the highway marking device as being located on the centreline or at the edge of each lane of the roadway;

    (c) the highway marking device described in the Pellowski Patent is not designed to support anything such as a sign or delineator. In particular, the Pellowski Patent does not describe the highway marking device as supporting a sign or delineator, or as being capable of doing so. In addition, the location of the highway marking device on the roadway (discussed above) and its dimensions and the fact that it

is designed to be impacted repeatedly (discussed below) confirm that it does not provide any such supporting function;

(d) the dimensions of the highway marking device described in the Pellowski Patent are also significant. It is clear from the Pellowski Patent that the highway marking device is relatively short, and of a height which is designed to impact the undercarriage of a vehicle: see column 2, lines 24-30 and claim 1 of the Pellowski Patent. I would expect that the highway marking device described in the Pellowski Patent would only be slightly higher than the minimum required to impact the undercarriage or bumper of a typical motor vehicle, so as to enable it to vibrate against the undercarriage and provide a warning noise, as intended. In my experience, a roadside post is significantly taller than this in order to perform the function described in paragraph 11 above;

(e) the highway marking device described in the Pellowski Patent is designed to be impacted repeatedly by the underside of vehicles so as to perform its function of providing an audible warning to drivers: see again column 2, lines 24-30 and claim 1 of the Pellowski Patent. In my experience, while roadside posts are designed to withstand impacts to varying degrees, they are not designed to be impacted repeatedly in this way to provide a warning noise. Such regular impacts would tend to destroy or damage the sign or delineator which is supported by a roadside post.

13. In my opinion, this difference between a "roadside post" and the "highway marking device" described in the Pellowski Patent makes a substantial contribution to the working of the

roadside posts defined in the claims of the First, Second and Third Patents, because it is fundamental to the different functions of the two devices.

E. USE OF A MARKER HOLE

14. The roadside posts defined in each of claims 1 to 4 of the First Patent vary from the highway marking device described in the Pellowski Patent in that the roadside posts defined in claims 1 to 4 of the First Patent include a marker hole. The highway marking device described in the Pellowski Patent does not have any marker hole, or other marking indicating the location of the surface of the ground.

15. In fact, it is clear to me from reading the Pellowski Patent that the highway marking device of the Pellowski Patent is not designed to be driven into the ground. The highway marking device of the Pellowski Patent is designed to be installed using a labour intensive method of first drilling a recess in the road, positioning the marking device in the recess, pouring a hardenable material into the recess and then allowing the hardenable material to harden about the marking device (see Figure 3). The Pellowski Patent does not provide any feature for facilitating installation of the marking device to the correct depth. No feature is provided to guide the installer as to the appropriate depth of the recess or the appropriate position of the marker device within the recess.

16. In my opinion, the inclusion of a marker hole contributes to the working of the roadside posts defined in claims 1 to 4 of the First Patent in the following ways, all of which I consider to be substantial contributions to the working of the posts defined, namely:

    (a) a marker hole assists in ensuring installation of the roadside post to the correct depth ensuring that the delineator is at the correct height and ensuring adequate

security of the roadside post into the ground thereby inhibiting unauthorised removal of the post or removal of the roadside post upon impact;

(b) a marker hole can be used to significantly ease extraction of the roadside post by inserting an extraction tool in the marker hole and lifting the roadside post by the extraction tool.

17. Further, as described in paragraph 61 of my Second Affidavit, the best performance of a roadside post is achieved if it is installed to its design depth.

F. USE OF A BARB

18. Claims 2 to 4 of the First Patent and claim 4 of the Second and Third Patents require as a feature of the roadside posts a barb located toward the first end (bottom) of the body of the post projecting towards the opposing end of the body of the post. The roadside posts defined in these claims vary from the highway marking device described in the Pellowski Patent as the Pellowski Patent does not include or make reference to the use of barbs or any other similar feature which acts as a retaining device to resist removal of the highway marking device from the ground.

19. As noted in paragraph 15 above, the highway marking device of the Pellowski Patent is designed to be installed using a labour intensive method of first drilling a recess in the road, positioning the marking device in the recess, pouring a hardenable material into the recess and then allowing the hardenable material to harden about the marking device. The use of a barb avoids the needs for such a complicated installation process.

20. Further, with the absence of any barb or similar feature, the highway marking device described in the Pellowski Patent could, in my view, be subject to being removed from the ground upon impact. This removal may be by extracting the marking device from the hardenable material in which it is positioned. In my opinion, this could be a significant problem with the highway marking device described in the Pellowski Patent as the strip element comprising the marking device only has a very short length secured in the hardenable material, as can be seen from Figure 3 of the Pellowski Patent. This short length, in the absence of a barb, could be insufficient to retain the strip element within the hardenable material. This is particularly the case as the surface of the steel strip element would be smooth, such that it could be readily removed from the hardenable material which is described as typically being either thermal setting plastic or concrete. The body of hardenable material itself may also be subject to being removed from the ground, with the strip element, upon impact of the marking device as there is no feature that would retain the hardenable material within the recess formed in the ground.

21. In my view, the presence of a barb in claim 2 of the First Patent and claim 4 of the Second and Third Patents substantially contributes to the working of each of the roadside posts, because the barb actively anchors the roadside posts against removal from the ground upon impact or by unauthorised users, including vandals, and it does this without any complicated installation process involving the use of hardenable material in a recess.

G. USE OF A TAPER

22. In claims 2 to 4 of the First Patent and claim 4 of the Second and Third Patents each of the roadside posts is defined to include an end which is tapered to enable the body to be driven into the ground. This feature is not present in the highway marking device the

subject of the Pellowski Patent. This is consistent with the fact that, on my understanding, the highway marking device described in the Pellowski Patent is not designed to be driven into the ground, but is installed utilising a rather complicated installation procedure as discussed above in paragraph 15.

23. As set out in paragraph 86 of my Second Affidavit the use of a taper makes a substantial contribution to the working of the roadside posts defined in claim 2 of the First Patent and claim 4 of the Second and Third Patent for the following reasons:

(a) including a taper means that the roadside post is able to be readily driven into the ground, in a wide variety of surface ground conditions. This improves the likelihood of installation to the correct depth, so that the roadside post can perform consistently and in accordance with its design criteria particularly so far as delineator location and retention in the ground during impact and from unauthorised removal are concerned;

(b) the taper improves the ability to drive the roadside post into the ground, thus avoiding the need to disturb surrounding soil when digging a hole for the roadside post. Such disturbance of soil reduces its degree of compaction resulting in an increase of movement of the roadside post and reducing the ability of the ground surrounding the roadside post to retain it;

(c) with a taper the ability to drive the roadside post into the ground to the correct depth avoids the possibility of digging a hole to an incorrect depth which necessarily results in the delineator being positioned at an incorrect location.

(d) It is clearly simpler to install a roadside post having a body with a tapered end over and above the installation method described in the Pellowski Patent and discussed above in paragraph 15. In my view, the fact that the roadside post having a tapered end can readily be driven into the ground in a single step makes a substantial contribution to the working of the roadside post because the supplier's installation process is more likely to be correctly followed resulting in the roadside post being more likely to be installed correctly, so that it performs as intended consistently.

H. LONGITUDINALLY EXTENDING RIBS

24. In the roadside posts defined in claim 4 of the First Patent and claim 5 of the Second and Third Patents, the body of each of the roadside posts is formed with a plurality of longitudinally extending ribs. The highway marking device described in the Pellowski Patent does not have longitudinally extending ribs but is made of a single strip element having a uniform cross-section.

25. In my opinion, longitudinally extending ribs make a substantial contribution to the working of each of the roadside posts defined in claim 4 of the First Patent and claim 5 of the Second and Third Patents for the reasons set out in paragraph 91 of my Second Affidavit, namely:

(a) The longitudinally extending ribs provide improved resistance to buckling when driving the roadside post into the ground, without adversely increasing bending stiffness to an extent affecting the ability of the roadside posts to elastically bend upon impact;

(b) The ribs increase the bending stiffness of the roadside posts to an extent sufficient to reduce wind shimmy (i.e. the fluttering of the post in the wind and/or breeze generated from passing vehicles) but not sufficient to affect the ability of the roadside post to elastically bend upon impact.

I. DIMENSIONS

26. Claim 3 of each of the First, Second and Third Patents specify certain dimensions of the roadside posts. In particular, the claims require that the body of the roadside posts have a transverse width of 75 to 120 millimetres. The roadside posts defined in these claims vary from the highway marking device disclosed in the Pellowski Patent in that the highway marking device appears to have a transverse width substantially less than 75 millimetres. In particular, I refer to Figure 2 of the Pellowski Patent which is a view in top plan of the highway marking device. Whilst no scale is shown on Figure 2, it appears that Figure 2 shows the width of the strip element forming the device (labelled "2") is about one-quarter of the width of the centre line (labelled "1"). In my experience, the width of the centre line is typically around 100 millimetres. On this basis, the width of the strip element would be about 25 millimetres in the Pellowski Patent. The width of the strip element being in this order, is consistent with the purpose of the device being a marker between lanes which is intended to be struck repeatedly and provide an audible warning to the driver of the vehicle upon impact. One would not design such a device of a substantially greater width (e.g. one that would exceed the width of the lane division).

27. In my opinion, this difference in width makes a substantial contribution to the working of the roadside posts defined in claim 3 of each of the First, Second and Third Patents as it

allows for the provision of a post of significant height to support a delineator at a height meeting Australian State Road Authority specifications whilst retaining sufficient stiffness.

28. I have made all enquiries which I believe are desirable and appropriate and no matters of significance that I regard as relevant have, to my knowledge, been withheld from the Court.

SWORN at Sydney

before me:

Solicitor
VICTORIA HUNTINGTON

Deponent